Testimonials

QI Haomin
2025 graduate

MSc student in ECE at University of California, San Diego.

"The MIE program offered rigorous training in advanced mathematics and cutting-edge information engineering, providing a strong foundation for my graduate studies."

SHIU Chun Hei, Michael
2024 graduate

PhD student in ECE at University of British Columbia.

"The MIE Programme allows me to understand engineering challenges from a mathematical perspective, and explore the applications of mathematics."

WONG Man Hon
2025 graduate

PhD student in ECE at University of Maryland, College Park

"The MIEG program has been invaluable for students passionate about solving engineering problems using mathematical tools. Moreover, the program's close-knit community is a significant asset."

WOO Pui Yung, Anna
2022 graduate

PhD student in CSE at University of Michigan.

"Not only did I acquire a solid knowledge in areas such as communication systems and signal processing from the programme, but I also developed problem-solving skills and abilities to generate innovative solutions."

Contact Persons

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Bachelor of Science (Hons) in Mathematics and Information Engineering

JUPAS CODE **JS4733**

MATHEMATICS

Analysis
Calculus · Algebra
Discrete Math · Probability

Algorithms
Data Structures
Information Theory
Signal Processing

Machine Learning · Big Data
Communications
Networking
Cyber Security

INFORMATION SCIENCE

Objectives :

- Acquire Analytical Problem Solving Skills
- Ability to develop Innovative and Creative Solutions
- Attain Solid Foundation for Research

www.ie.cuhk.edu.hk/mieg

An interdisciplinary programme jointly offered by
Department of Information Engineering and
Department of Mathematics

“Mathematics is our Passion … … Engineering is our Profession.”

Overview

Mathematics and Information Engineering (MIEG) is a selective interdisciplinary programme jointly offered by the Faculty of Science and the Faculty of Engineering, with the Department of Mathematics and the Department of Information Engineering being responsible for the management and operations.

This is a rewarding programme designed to equip gifted students with solid fundamental knowledge in mathematics, information and computer sciences. MIEG graduates go for postgraduate studies at the top universities worldwide or pursue independent research or careers in various sectors.

Research

Independent Studies

Programme Features

The programme places strong emphasis on research and encourages independent studies under the supervision of professors from either department. Students who excel in their studies will have opportunities to take up research work during their later years of study.

Curriculum

Year 1 – Beginner
Single-variable Calculus, Linear Algebra
Foundations of Modern Mathematics, Basic Programming

Year 2 – Intermediate
Multi-variable Calculus, Advanced Linear Algebra
Discrete Math and Probability, Fourier Analysis and Applications
Data Structures, Advanced Programming

Year 3 – Advanced
Real and Complex Analysis, Algebra
Digital Communications, Analysis of Algorithms, Computer Networks

Year 4 – Expert
Final Year Project
Major Electives: Random Processes, Information Theory, Image Processing, Machine Learning, Cybersecurity, etc.

Graduation Requirements

Major Requirement
87 units
+
University Core Requirement
39 units
=
126 units

80+ Major Electives for you to choose, from fields of *Big Data, Information Processing, Cyber Security, Internet Engineering, Telecommunications, Computer Networking, Software Engineering, and Mathematics*.

JUPAS

JUPAS CODE **JS4733**

Admission Channels for Different Qualifications

For HKDSE applicants, admission is based on the results of your Best 5 subjects with the following subject weighting:

Category	Subject Group	Min. Level	Weight
Core	English Language	4	x 1
	Chinese Language	3	x 1
	Mathematics (Compulsory Part)	5	x 2
	Citizenship and Social Development	A (Attained)	
Elective	Mathematics Extended Module I or II	5	x 2
	Biology / Chemistry / Information and Communication Technology / Physics	4	x 1.5
	All other Elective Subjects	4	x 1

The programme accepts application for waiver of Chinese Language requirement for Non-Chinese Speaking (NCS) Applicants. Please check the University admission website for details.

Non-JUPAS (Local)

For local applicants with qualifications other than HKDSE, such as GCE-AL, IB, SAT/AP or other qualifications, please check the programme website for relevant information.

International

For non-local applicants who require a student visa, or entry permit to study in Hong Kong, and with overseas qualifications such as GCE-AL, International-AL, IB, and other high school qualifications from recognised institutions, please contact us for more information.

Mainland

Mainland China students who are current Gaokao candidates (应届高考生) must apply through the National Colleges and Universities Enrolment System (全国普通高校统一招生计划)

Note: Applications of these two schemes will be assessed on a case-by-case basis.